

PROJECT DESCRIPTION

I. GENERAL

This project involves the installation of a Traffic Control Signal at the intersection of US 29 (Columbia Pike) and the Burnt Mills Shopping Center and Choice Center driveways in Montgomery County. Loop detection shall be used in all directions. US 29 (Columbia Pike) is assumed to run in a north-south direction.

II. INTERSECTION OPERATION

- The intersection is to operate in a NEMA eight-phase, fully actuated mode, with the driveway approaches running concurrently. Exclusive/Permissive left turn phases shall be used for the northbound and southbound approaches of US 29. The pedestrian phases across the driveways shall be placed on recall. Pedestrian phases with pushbutton activation shall be provided across the north leg of US 29 (Columbia Pike).
- Far-side sampling stations, using loop detection shall be provided on both legs of US 29 (Columbia Pike) at this intersection.

III. SPECIAL NOTES

- The contractor shall be responsible for terminating all signal cables to the appropriate terminals and shall properly label each cable.
- All underground and overhead utilities shown on these plans are schematic only and may not be complete. The Contractor shall be responsible for notifying Miss Utility prior to construction so that all utilities may be located in the field. If the Contractor perceives that a conflict between the utilities and the traffic signal will occur, the Contractor shall notify the Project Engineer immediately so that the conflict may be resolved.

The contact persons for District #3 (Montgomery County) are as follows:

Mr. Lee Starkloff
Assistant District Engineer - Traffic
Phone: (301) 513-7318

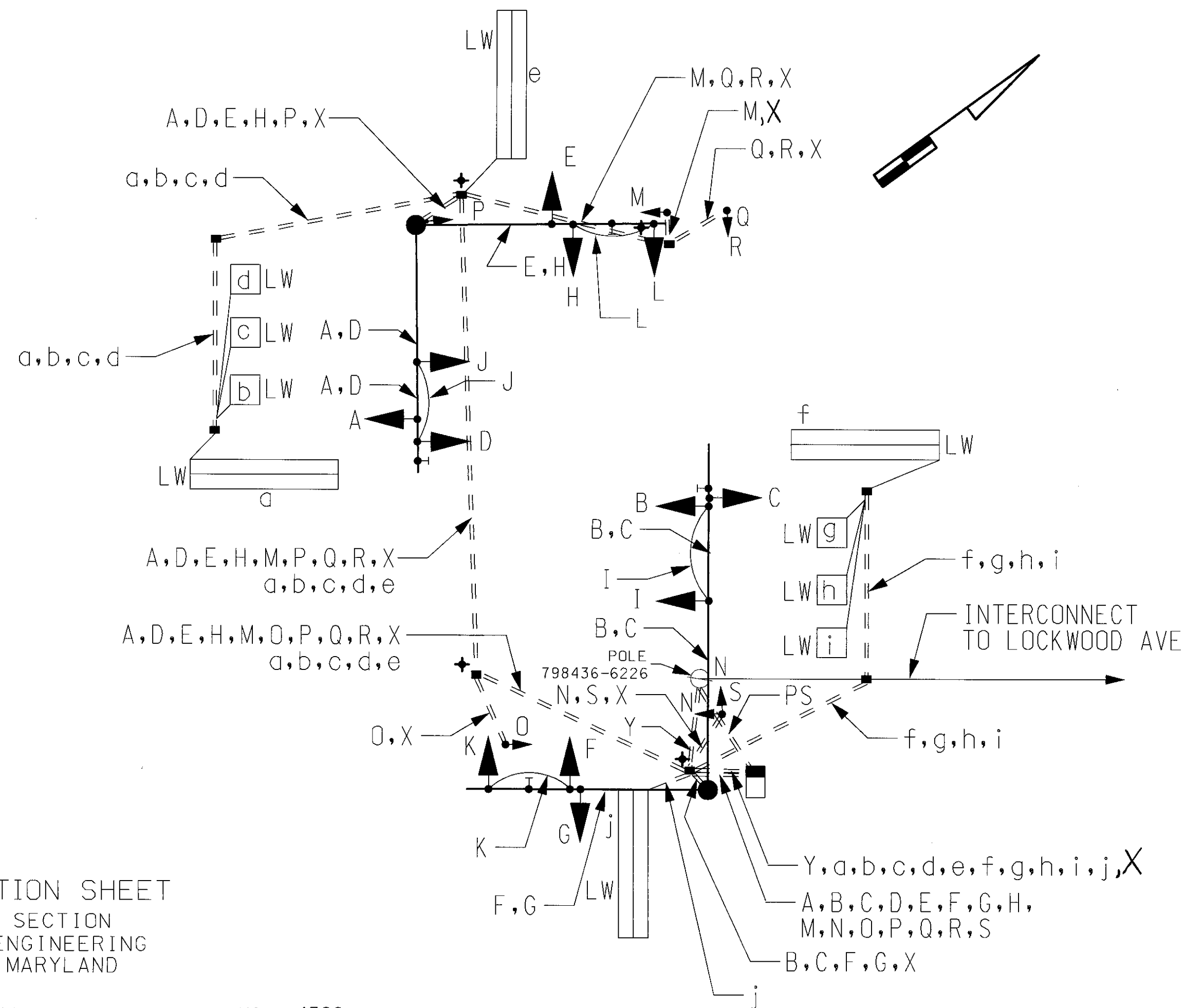
Mr. Wayne Mowdy
Assistant District Engineer - Maintenance
Phone: (301) 513-7304

Mr. Augie Rebish
District Engineer - Utility
Phone: (301) 513-7350

Mr. Richard L. Daff, Sr.
Chief, Traffic Operations Division
Phone: (410) 787-7630

Mr. Robert Gonzales
Engineer, Montgomery County DPWT
Phone: (240) 777-8761

WIRING DIAGRAM



WIRING KEY

A B C D E F G H I J K L M N O P Q R S X Y PS LW	7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
I J K L M N O P Q R S X Y PS LW	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
M N O P Q R S X Y PS LW	3-CONDUCTOR (NO. 14 A.W.G.)
Q R S X Y PS LW	2-CONDUCTOR (NO. 14 A.W.G.)
X Y PS LW	STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
Y PS LW	12-PAIR INTERCONNECT CABLE (NO. 9 AWG), PROVIDED BY AND INSTALLED BY MONTGOMERY COUNTY DPWT FORCES.
PS LW	PROPOSED UNDERGROUND ELECTRICAL SERVICE
LW	LOOP WIRE (NO. 14 AWG)
Q R S X Y PS LW	2-CONDUCTOR (ALUMINUM SHIELDED) (NO. 14 A.W.G.)
+	GROUND ROD

EQUIPMENT LIST

- A. Equipment to be furnished by the State Highway Administration: None
- B. Equipment to be furnished and installed by the contractor. All equipment in this list shall have catalog cuts submitted for approval prior to installation.

QUANTITY	UNITS	SPECIFICATION SECTION	DESCRIPTION
1	LS	108	Mobilization.
1	LS	104	Maintenance of traffic.
3	CY	205	Test pit excavation.
8	EA	811	Handhole.
300	LF	810	2-conductor electrical cable (No. 14 A.W.G.).
780	LF	810	3-conductor electrical cable (No. 14 A.W.G.).
125	LF	810	5-conductor electrical cable (No. 14 A.W.G.).
1305	LF	810	7-conductor electrical cable (No. 14 A.W.G.).
325	LF	804	Bare copper stranded ground wire (No. 6 A.W.G.).
33	LF	803	1 in. liquid tight flexible non-metallic electrical conduit (detector wire sleeve).
7	LF	805	1 in. galvanized steel electrical conduit (detector wire sleeve).
170	LF	805	3 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
30	LF	805	4 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
290	LF	805	4 in. polyvinyl chloride [Schedule 80] electrical conduit - bored.
14	CY	801	Concrete foundation for traffic signal equipment.
4	EA	804	Ground rod - 1/2 in. diameter x 10 ft. length.
1	EA	807	Control and distribution equipment (120/240 V. one phase, three wire system) for a type B-16 underground electrical service.
50	LF	812	4 in. x 4 in. wood sign support.
200	LF	556	5 in. wide HAPPTM - yellow for lane line.
340	LF	556	12 in. wide HAPPTM - white for crosswalk.
140	LF	556	24 in. wide HAPPTM - white for stop line.
770	LF	808	Saw Cut for Signal (Loop Detector).
2500	LF	805	Loop Wire encased in flexible tubing (No. 14 A.W.G.).
1710	LF	808	Electrical Cable - 2-conductor (Aluminum Shielded).
75	LF	808	3-Wire electrical service cable (No. 4 A.W.G.).
1	EA	818	27 ft. steel mast arm pole with twin 70 ft. and 50 ft. mast arm.
1	EA	818	15 ft. Special "T" steel mast arm pole with twin 50 ft. mast arms.
1	EA	816	Standard S.H.A. traffic signal controller and base mounted cabinet.
4	EA	814	12 in., black faced, one-way, five section (R, Y, G, G) adjustable traffic signal head with mast arm mounting hardware and tunnel visors.
8	EA	814	12 in., black faced, one-way, three section (R, Y, G) adjustable traffic signal head with mast arm mounting hardware and tunnel visors.
6	EA	814	12 in., one-way, two section (symbolic DW, WK) adjustable pedestrian signal ahead with adjustable bracket for pole mounting.
2	EA	813	36 in. x 42 in. R 10-12 sign with mast arm mounting hardware.
2	EA	813	16 in. x Var. D 3-2 (Dual Faced) sign with under mast arm mounting hardware.
4	EA	813	48 in. x 48 in. W3-3 sign with flags and NEW supplemental sign for ground mounting.
2	EA	817	Pedestrian pushbutton assembly with pushbutton sign. (NOTE: Signs to read "PUSH BUTTON TO CROSS COLUMBIA PK")
3	EA	803	Pedestrian Pole (10 ft.)

SEQUENCE OF OPERATION SHEET

TRAFFIC OPERATIONS SECTION
DIVISION OF TRAFFIC ENGINEERING
MONTGOMERY COUNTY, MARYLAND

INTERSECTION: COLUMBIA PIKE (US 29) AND NAME NO. 4328

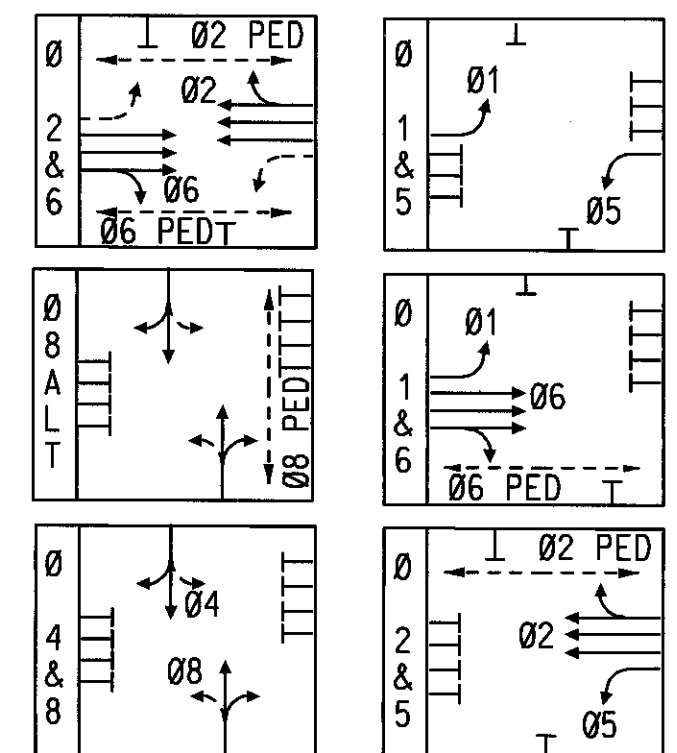
SIGNAL NO.	SIGNAL HEAD INDICATIONS		
	3,6,7,8,9,10,11,12	1,2,4,5	13,14,15,16,17,18
TOTAL:	8	4	6
LEGEND	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)
OPTICALLY LIMITED			
R RED			
Y YELLOW			
G GREEN			
ARROW			
FLASHING			
	12"	12"	9" or 12"

SEQUENCE OF OPERATION																				
SIGNAL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
2	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
3	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
4	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
5	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
6	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
7	R	R	R	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R
8	R	R	R	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R
9	R	R	R	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R
10	R	R	R	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R
11	R	R	R	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R
12	R	R	R	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R
13	WK	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
14	WK	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
15	WK	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
16	WK	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
17	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
18	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
PHASE	2 & 6	ALL RED	4 & 8	ALL RED	1 & 5	ALL RED	2 & 5	ALL RED	1 & 6	ALL RED	ALT. B	ALL RED								

NOTES:

SUBMITTED:	CHECKED:	APPROVED:
IN SERVICE BY:	DATE:	TIME:

PHASING



PROTECTED MOVEMENT
PERMISSIVE MOVEMENT

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MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
US 29 AND
BURNT MILLS SHOPPING CENTER

DRAWN BY: JMM	F.A.P. NO.	TS NO.
CHECKED BY: KWF	S.H.A. NO.	4328
SCALE: 1"=20'	COUNTY: MONTGOMERY	T.I.M.S. NO.
DATE: AUGUST 30, 2004	LOG MILE: J5002902.50	G085X

SHEET NO.
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